AMENDMENTS TO THE SPECIFICATION

On **page 4**, please replace the paragraph starting at line 1 with the following replacement paragraph:

-- (amended) Especially contemplated low pressure feed gas has a pressure of about 400 psig to about 700 psig, and a portion of the low pressure feed may be cooled in a plurality of side reboilers that are thermally coupled to the demethanizer. In preferred configurations, the first pressure reduction device may comprise a hydraulic turbine, and the second pressure reduction device may comprise ~~comprises~~ a ~~Joule-Thompson~~ Joule-Thomson valve. --

On **page 10**, replace the paragraph starting at line 17 with the following replacement paragraph:

-- (amended) In such configurations, it is especially preferred that the low pressure feed gas has a pressure of about 400 psig to about 700 psig, and that a portion of the low pressure feed is cooled in a plurality of side reboilers that are thermally coupled to the demethanizer. With respect to the first pressure reduction device it is generally contemplated that a hydraulic turbine reduces the pressure (and produces work), and that the second pressure reduction device comprises a ~~Joule-Thompson~~ Joule-Thomson valve to provide effective cooling. It should further be recognized that in such configurations the liquid portion that is reduced in pressure is fed into the demethanizer, and that at least part of the vapor portion is expanded in a turboexpander and fed into a second separator that produces a liquid that is employed as a lean demethanizer reflux and a vapor that is fed into the absorber. --

On **page 1**, replace the paragraph starting at line 11 with the following replacement paragraph:

-- (amended) For example, a typical configuration that employs turbo expansion cooling assisted by external propane and ethane refrigeration is shown in **Prior Art Figure 1**. Here, the feed gas stream 1 is split into two streams (2 and 3) for chilling. Stream 3 is cooled by the demethanizer side reboiler system 111 to stream 24, while stream 2 is chilled by the cold residue gas from separator 106 and demethanizer 110 (via streams 13, 18, and 38). The two streams 2

and 3 are typically chilled to about -102 °F, and about 15% of the feed gas volume is [[are]] condensed. The liquid condensate volume is about 3800 GPM (at a typical feed gas flow rate of 2 BSCFD supplied at about 600 psig and 68 °F with a composition of typically 1% N_2, 0.9% CO_2, 92.35% C_1, 4.25% C_2, 0.95% C_3, 0.20% iC4, 0.25% nC_4 and 0.1% C_5+), which is fed to the upper section of the demethanizer 110 via lines 8 and 9 and JT valve 104. The vapor stream 7 is expanded via expander 105 and the resulting two-phase mixture from line 12 is separated in separator 106. Over 80% of the feed gas is [[are]] flashed off as stream 13 in separator 106. Separated liquid 14 is pumped by pump 107 via line 15 to the demethanizer operating typically at 400 psia. The demethanizer produces a residue gas 18 that is partially depleted of ethane and an NGL product 23 containing the ethane plus components. Side reboilers 111 are used for stripping the methane component from the NGL (via lines 25-30) while providing a source of cooling for the feed gas 3. The demethanizer overhead vapor stream 18 typically at -129 °F combines with the flash gas stream 13 from separator 106 and fed to the feed exchanger 101 for feed gas cooling (Additional cooling is provided via external ethane and propane refrigerants via lines 44 and 45). --

On **pages 6 and 7**, replace the paragraph spanning pages 6 and 7 with the following replacement paragraph:

-- (amended) A secondary exchanger 102 further refrigerates stream 6 to stream 4 to -108 °F with refrigeration supplied by stream 9 after being expanded via hydraulic turbine 104. Stream 4 is combined with stream 24 from the side reboilers of the side reboiler system 111 to form stream 5 at -108 °F. At this point, about 25% of the feed gas volume is [[are]] condensed and about 25% of the methane and 85% of the ethane plus components are condensed in the liquid phase. A separator 103 separates a liquid condensate from a vapor. The liquid condensate (stream 8) volume is about 6600 GPM, which is letdown in pressure in hydraulic turbine 104 generating shaft horsepower while chilling the condensate from -108 °F to -133 °F. The cold expanded liquid stream 9 is used to cool the feed gas in the secondary exchanger 102. The heated liquid from exchanger 102 (stream 10) is routed to the upper section of the demethanizer for stripping the methane components. --

On **page 7**, please replace the paragraph starting at line 8 with the following replacement paragraph:

-- (amended) Separated vapor stream 7, a lean gas consisting of over 96% methane, is split into two streams. About 60% of the total flow (stream 11) is [[are]] expanded via expander 105 to 345 psia, and the resulting two-phase mixture in line 12 is separated in separator 106. Liquid stream 14 from separator 106 is pumped to the top of the demethanizer 110 via stream 15, while vapor stream 13 from separator 106 is combined with the demethanizer overhead stream 22 to form stream 17 and fed to the bottom of absorber 109. The remaining 40% of the total flow (stream 10) is cooled in rectifier exchanger 109 to -122 °F by the absorber overhead vapor. The exit liquid stream 36 from exchanger 109 is letdown in pressure via JT valve 115 to 340 psia while being cooled to -140 °F and routed to the top of the absorber as reflux. The absorber generates a residue gas stream 18 at -150 °F and a bottom intermediate product stream 19 at145 °F that is pumped by pump 112 and fed to the top of demethanizer 110 via ~~line~~ lines 20 and 21. The demethanizer produces an overhead gas 22 that is routed to the bottom of the absorber and an NGL product stream 23 containing the ethane plus components. Side reboilers are used for stripping the methane component from the NGL while providing a source of cooling for the feed gas. The absorber overhead vapor stream 18 typically at -150 °F is used for feed cooling in the rectifier exchanger 109 and feed exchanger 101 (via streams 18, 28, and 39, before recompression in expander compressor 105 and residue gas compressor 120 and leaving the plant via lines 40, 42, and 43). --